

Applicant: Michael Peter Cooke
Serial No.: 10/802,275
Group Art Unit: 3752

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SEP 14 2006

REMARKS

No new matter is added by the amendment. By this amendment claims 26 and 29 have been amended and new claims 32-34 have been added. Claims 28 and 31 stand withdrawn. The claims remaining in consideration are claims 26-27, 29-30, and 32-34. Reconsideration is respectfully requested. Claims 26, 29 and 34 are independent claims.

Claims 26, 27, 29 and 30 were rejected under 35 USC §112, first paragraph. Independent claim 26 recited a hydraulic amplifier which included a mechanical coupler. In the embodiment disclosed in the specification, the mechanical coupler includes a spring 50. The Examiner stated that the disclosure does not support that the mechanical coupler (or spring 50) is part of the hydraulic amplifier. Independent claim 26 has been amended such that the mechanical coupler is a separate element. It should be noted, that the mechanical coupler is already a separate element in independent claim 29 and new independent claim 34.

Therefore, applicants assert that the §112, first paragraph rejection has been overcome and request that it be withdrawn.

Claims 26, 27, 29, and 30 were rejected under 35 USC §112, second paragraph. Specifically, the Examiner states (with regard to claim 26) that the valve member and the piston seem to be double inclusion of the hydraulic amplifier arrangement. Independent claim 26 has been amended to make it clear that the piston member and the control chamber are part of the amplifier arrangement (as recognized by the Examiner in his citation of paragraph [0045] of the specification). Likewise independent claim 29 has been amended to make it clear that the piston member is part of the actuator-hydraulic amplifier combination.

Since the language of independent claims 26 and 29 mirror the specification, i.e., paragraph [0045] as cited by the Examiner, applicants respectfully request that the §112, second paragraph rejection be withdrawn.

Claims 26 and 27 were rejected under 35 USC §102(b) as being anticipated by Boecking. This rejection is respectfully traversed.

The Examiner has utilized Boecking to teach the use of an initial retracting force and a second retracting force. However, the Examiner has, in effect, impermissibly ignored certain language as being "functional" and thus of no patentable weight.

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Nevertheless, applicants, in an attempt to move the present application more quickly towards allowance, have amended independent claims 26 and 29 to more positively set forth the structure of, e.g., the mechanical coupler. Applicants respectfully assert that the structure as set forth in amended claims 26 and 29 are allowable over Boecking and respectfully requested that the §102(b) rejection be withdrawn.

Claims 26, 27, 29 and 30 were rejected under 35 USC §102(e) as being anticipated by US Patent 6,513,733 issued to Lambert. Both Lambert and the present invention have been assigned to the same assignee. This rejection is respectfully traversed.

Lambert discloses a fuel injector with two valve needles, an outer valve needle and an inner valve needle. In order to lift the inner valve needle the outer valve needle must move beyond a certain amount so that the step in the bore of the outer valve needle engages with the head of the inner valve needle.

For all subsequent movement of the outer valve needle, the inner valve needle is therefore carried with the outer valve needle by a mechanical coupling between the parts. See, for example, column 5, lines 36 to 44, column 6, lines 63 to 67 and column 7, lines 41 to 43.

Lambert does not include the (hydraulic) amplifier arrangement of claim 26 or the actuator-hydraulic amplifier combination of claim 29. The only way in which the inner valve needle of Lambert is moved is when it is mechanically coupled to the outer valve needle. There is no amplification of movement of the outer valve needle through hydraulic coupling, i.e., as in the present invention.

The Examiner has also identified the control chamber 15 in Lambert as equivalent to the control chamber in the present claims. This is incorrect as the control chamber in Lambert is simply a delivery chamber from where fuel is delivered to the nozzle outlet when the outer and/or inner valve needles are lifted from their seats.

Therefore, since Lambert does not disclose each and every limitation of independent claims 26 and 29 applicants respectfully assert that the §102(e) rejection over Lambert is improper and must be withdrawn.

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Claims 26, 27, 29 and 30 were rejected under the judicially created doctrine of obvious-type double patenting over claim 1 of US Patent 6,776,354. A responsive Terminal Disclaimer is being filed herewith.

New claims 32 and 33 are dependent upon allowable claims 26 and 29, respectively.

New independent claim 34 sets forth a fuel injector having a nozzle body, a valve needle, a piston member, and a mechanical coupler. Applicants respectfully assert that new independent claims 34 is allowable over Boecking.

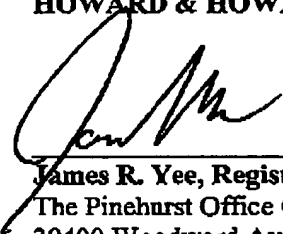
The Commissioner is hereby authorized to charge Deposit Account 08-2789 in the name of Howard & Howard Attorneys for the fees associated with a Petition to Revive (37 C.F.R. 1.17(m)), a Request for Continued Examination (37 C.F.R. 1.17(e)), and a Terminal Disclaimer (37 C.F.R. 1.20(d)), all of which are submitted herewith.

Applicant believes that no additional fees are due, however, if any become required, the Commissioner is authorized to charge any fees or credit any overpayments to the above-mentioned Deposit Account.

Respectfully submitted

HOWARD & HOWARD ATTORNEYS, P.C.

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Date



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